

Remarks/Arguments

Upon entry of this amendment, claims 1-51 will be pending in this application. The Office has objected to claims 6, 19 and 32 under 37 CFR 1.75(c) as being of improper dependent form for failing to further limit the subject matter of the previous claims.

In addition, the Office has rejected claims 1-47 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. The Office has, however, noted that claims 1-43 would be allowable if rewritten to overcome the 112 rejections, and that claim 47 would be allowable if rewritten to overcome the 112 rejection and to include all of the limitations of the base and any intervening claims.

Finally, the Office has rejected claims 44-46 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent 5,594,898 (Dalal).

The 37 CFR 1.75(c) Objections to Claims 6, 19, and 32

Original claims 6, 19, and 32 have been canceled and replaced in substance by new claims 48, 49 and 50, which reflect original claims 6, 19, and 32, respectively, rewritten in independent form. All 35 U.S.C. § 112, second paragraph, rejections related to original claims 6, 19, and 32 have also been addressed in the respective new claims.

The 112, Second Paragraph Rejections

The Office has rejected claim 1 stating that the phrases “the hash” and “the presence” do not have sufficient antecedent basis in the claim, rendering the claim indefinite. Applicant has replaced the phrase “the hash” with the phrase “a hash” in claim 1, thereby addressing the Office’s rejection on this ground. Further, applicant has replaced the phrase “the presence of” with the phrase “is present” in claim 1, thereby

addressing this basis for rejection. As a result, claim 1 and its dependents are patentable under 35 U.S.C. § 112, second paragraph.

The Office has similarly rejected claims 5, 18, and 31 for the use of the phrase “the hash,” and claims 5, 18, 31, 44 and 45 for use of the phrase “the presence” without proper antecedent basis. Applicant has also modified these claims, appropriately replacing the phrase “the hash” with the phrase “a hash” and the phrase “the presence of” with the phrase “is present.” As such, these claims, as well as their dependents, are patentable under 35 U.S.C. § 112, second paragraph.

Please note that while the Office has also rejected claims 6, 19, and 32 for use of the phrase “the cardinality,” these claims are canceled in this reply, thereby rendering moot this basis for rejection.

The 102(b) Rejections over Dalal

With respect to claim 44, Dalal does not teach or suggest a Star Map including bitmap entries, where a bitmap entry, if set, “indicates a row is present in the associated table that has entries in the one or more join key columns that, when combined, *identify the location of the bitmap entry*” (emphasis added). Rather, Dalal teaches a “one-table row mapping” or “bitmap” data structure that contains “one flag, or bit, for each row in its [source] table which indicates whether or not *the row is eligible to be joined*” (see Dalal, col. 7, lines 42-46) (emphasis added). A person of ordinary skill in the art would readily understand that indicating that a row in a table has entries, the values of which identify the location of a bitmap entry, is not at all the same as storing a bitmap entry to indicate that a source table row is eligible to be joined, as shown in Dalal. As a result, Dalal does not meet the limitations of Applicant’s claim 44, and this claim is patentable over Dalal.

Applying the same analysis to claim 45, it is seen that Dalal also does not teach or suggest a Star Map which “includes bitmap entries having locations indexed by one or

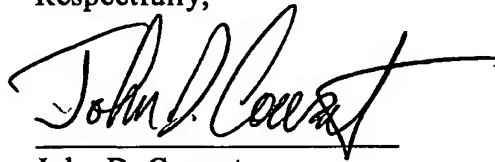
more values associated with a join key column of its associated table.” The result is that Dalal fails also to meet the limitations of Applicant’s claim 45, as well as claims 46 and 47 which depend from it. Accordingly, all of these claims are patentable over Dalal.

Conclusions

Applicant has addressed the Office's objections under 37 CFR 1.75(c), and rejections under 35 U.S.C. § 112 in the attached Amendments to the Claims. Further, and for the reasons discussed above, Dalal does not teach or suggest all of the limitations of the claims 44 through 47. Therefore, all of these claims are allowable over Dalal.

In light of the above, Applicant asks the Office to reconsider this application and allow all of the claims. Please apply any charges that might be due, excepting the issue fee but including fees for extensions of time, to deposit account 14-0255.

Respectfully,

A handwritten signature in black ink, appearing to read "John D. Cowart", written over a horizontal line.

John D. Cowart
Reg. No. 38,415

NCR Corporation
1700 South Patterson Blvd.
Dayton, Ohio 45479-0001

Tel. No. (858) 485-4903
Fax No. (858) 485-3255